



'Woman vs. Man vs. Bugs': Gender and Popular Ecology in Early Reactions to Silent Spring

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MARIL HAZLETT

‘woman vs. man vs. bugs’: GENDER

AND POPULAR ECOLOGY IN EARLY REACTIONS TO *SILENT SPRING*

TODAY, ENVIRONMENTALISTS hail Rachel Carson’s *Silent Spring* (1962) as one of the major inspirations for contemporary environmentalism.¹ Her bestseller on the dangers of synthetic chemical pesticides introduced the public to ecological principles and argued that humans could not and should not try to dominate nature. Carson communicated these ideas through striking portrayals of humans as ecological creatures, their bodies physically entwined with their surroundings. Thus, she put words to an evolving strain of environmental thinking that caused significant changes in how members of the public—including conservationists—viewed nature.² Since its beginnings around the turn of the century, the conservation movement had focused on the environment primarily in terms of resource management or wilderness preservation.³ In contrast, Carson used ecology to define people’s homes, gardens, and health as part of the natural world.

Roy Attaway, a particularly articulate outdoorsman and columnist for the *Charleston (S.C.) News-Courier*, represented a typical grassroots conservationist swept up in the early steps of the transition from conservation to environmentalism.⁴ As Attaway wrote shortly after *Silent Spring*’s publication: “It is not pleasant to realize that your child will be born with small doses of lethal poisons stored in its tissues. It is not pleasant to realize that you and I and every citizen of the United States have lethal poisons stored in our tissues. It is particularly unpleasant to realize that we have no control over the extenuating circumstances. I have known, or half-suspected, these things for a long time. And

yet the dreadful realization did not come home to me, it did not sink in.”⁵ Not, that is, until Attaway read *Silent Spring*. Such realizations were certainly unsettling. Many people, including conservationists, disagreed bitterly over Carson’s work. Gender was one element of the divide. The initial chapter of the debate—which lasted from the book’s publication in 1962 to Carson’s death from breast cancer in 1964—was rife with gender stereotypes. Carson’s detractors, for example, often cast her as a hysterical woman. Evidently, traditional gender roles provided an important pillar of support for the schizoid vision of nature and society that Carson had challenged.⁶

What are the connections between gender ideology and the rise in popular ecological thought—as well as resistance to it? How did gender—as a specific historical system, categories of masculine and feminine in tension with each other, as well as in flux internally—help to shape the roots of environmentalism?⁷ Neither the current scholarship on environmentalism nor on Carson clearly answers these questions; either it incorporates women’s history yet lacks a sustained gender analysis, or it defines gender as primarily involving women. The role of masculinity in the debate usually escapes acknowledgement and systematic analysis.⁸

The example of Roy Attaway, however, reveals an important clue. Because of his identity as a hunter and outdoorsman, many would have perceived Attaway as close to the epitome of masculinity. However, this manly man was also deeply concerned with the pesticides that—without consent—penetrated the flesh of he and his family. Intimate issues such as body, children, and health traditionally belonged to the province of women, the subordinate private sphere. Attaway’s ecological sentiments belonged to no clearly gendered category. In the context of the early 1960s, Attaway presented a loaded and potentially revolutionary image.

Before *Silent Spring*, cultural ideologies of gender were polarized into distinct categories of masculine and feminine. This essay begins by examining how such rigid beliefs, held in place by a patriarchal economic and political structure, conditioned negative reactions to *Silent Spring*. The essay next considers the complicated case of hunters and outdoorsmen who wrote columns or letters about *Silent Spring* to local publications across the country. These hunters and outdoorsmen show a complicated middle ground of gender emerging. In this unexpected gray area, people configured traditional masculine and feminine concerns in new ways. To envision environmental change and question the powers that be, some conservationists—men and women alike—stepped outside traditional gender roles. Problematically, however, this cultural flux contributed to other conservationists initially rejecting, or treading warily, around *Silent Spring*, ecological ideas, and anti-pesticide activism.

“OLD IDEAS DIE HARD”

AT FIRST, even Carson found it difficult to begin exploring the political, social, and scientific implications of ecological ideas. “[O]ld ideas die hard,” she wrote to her dear friend Dorothy Freeman, “especially when they are emotionally as

well as intellectually dear to one.” As Carson explained, “It was comforting to suppose that the stream of life would flow on through time in whatever course that God has appointed for it—without interference by one of the drops of the stream—man. And to suppose that, however the physical environment might mold Life, that Life could never assume the power to change drastically—or even destroy—the physical world. These beliefs have almost been part of me for as long as I have thought about such things. To have them even vaguely threatened was so shocking that, as I have said, I shut my mind—refused to acknowledge what I couldn’t help seeing. But that does no good, and I have now opened my eyes and my mind. I may not like what I see, but it does no good to ignore it.”⁹

Carson was trained in biology, experienced in analyzing scientific scholarship, and talented in communicating such ideas to the public. Moreover, she always understood nature fundamentally in terms of ecological relationships.¹⁰ Still, before she could write *Silent Spring*, Carson too had to confront a cultural ideology where man existed separate from nature. This same framework permeated conservationists’ ideas. Given their historically land- and resource-based agendas, most conservationists accepted sharp divisions between man and nature as a matter of course. In particular, a perceived dichotomy between wilderness and civilization drove many conservationist efforts.¹¹

Carson was a conservationist and had long supported most federal conservation policies. However, as her biographer Linda Lear observed, Carson progressively “became more troubled by the political implications of multiple use conservation, especially the economic and technological pressures to reduce and transform the natural world.” Carson’s sympathies began to swing toward the other side of the conservation movement—wilderness and wildlife preservation.¹² During her investigation into pesticides, she confronted the challenge of discussing humans and nature within an inclusive environmental ethic. In writing *Silent Spring*, Carson struggled to frame an ecological vision that integrated the effects of pesticides on both humans and nature.¹³

The quest to understand the human body as a physical, ecological entity guided Carson’s steps along this path. As her research came together, Carson became especially interested in pesticides’ effects on humans. She collected case histories of pesticide poisonings not only in the factories where they were manufactured, but also in home and garden environments—the most intimate quarters of everyday human existence. Carson further wondered about the roles of pesticides in her own life, such as their possible contribution to the death of a beloved friend and to the pneumonitis of her adopted son Roger.¹⁴ In Carson’s thinking, the human body came to form the missing ecological link that joined humans and nature.

This journey involved quite a transformation. In the twelve chapters that Carson had originally planned for *Silent Spring*, only one discussed pesticides’ effects on humans. In the final draft, however, four chapters focused primarily on this topic.¹⁵ Throughout her final text Carson sprinkled case histories of pesticide poisonings as well as comparisons between the effects of pesticides on

humans and animals. One powerful example, often cited by her readers, recounted how the same chemicals were found in “fish in remote mountain lakes, in earthworms burrowing in soil, in the eggs of birds—and in man himself. ... They occur in the mother’s milk, and probably in the tissues of the unborn child.”¹⁶ Ultimately, ecological bonds between humans and nature provided the backbone of Carson’s ethical arguments in *Silent Spring*. She told her readers that society as they knew it—economics, politics, cultural ideas—was based on the false assumption that humans could and should dominate nature. “The ‘control of nature’ is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy,” she wrote, “when it was supposed that nature existed for the convenience of man.”¹⁷

No matter how hard people tried, they could never dominate nature. Nor could their sciences and technologies hold human bodies forever invulnerable from chemical contamination, separate from and superior to their natural surroundings. According to Carson, humans were eternally embedded in their environment. These inextricable ecological connections indicated a much more mutable balance of power. Therefore, industries that used chemical sciences and technologies bore the burden to prove synthetic substances safe beyond a reasonable doubt before introducing them to the public domain. This alternative environmental ethic also was linked to an alternative scientific method: Carson gave people’s observations and interpretations of their surroundings equal weight to the analyses of scientists. Accordingly, she argued that community ethics should serve as the highest standard for making decisions about environmental risks, especially where long-term scientific evidence was nonexistent or uncertain.¹⁸

The result was a complex, explosive book. When the *New Yorker* first serialized *Silent Spring* in July 1962, Carson’s work received immediate attention. The economic and political interests involved in pesticides reeled, and the public recoiled. Frantically, various factions of the media, scientists, government officials, and public relations strategists tried to mediate and contain the debate. By August, President John Kennedy promised an investigation from the President’s Science Advisory Committee. Through the fall of 1962 and the winter of 1963, however, the backlash against *Silent Spring* became a focused attack against the book. Regardless, April 1963 brought the CBS Reports broadcast “The *Silent Spring* of Rachel Carson” to 10 to 15 million viewers across the nation. In response to the new wave of outrage, Senator Abraham Ribicoff, of Connecticut, scheduled investigatory hearings to begin that upcoming May. Stretching over nearly a full year, the congressional hearings ended in April 1964, the same month that Carson died after a long struggle with breast cancer.¹⁹

By the book’s hardback publication in September 1962, a vocal public critique of pesticides, science, and technology had emerged in support of Carson. *Silent Spring* ignited long-smoldering concerns about the pervasive spread of industrial toxins through the environment. Voluminous newspaper articles, columns, and letters to the editor spoke in the same breath about *Silent Spring* and a long list

of contemporary dangers: aminotriazole in cranberries; thalidomide; fluoridation of water; radioactive fallout; the atomic bomb; Hiroshima and Nagasaki; the possibilities of genetic mutations from toxins; increased incidences of cancer. From *Ladies Home Journal* to *Popular Mechanics*, from New York to Kansas to California, it seemed that everyone had a comment about *Silent Spring* and pesticides. Reactions to Carson's book apparently came from a broad base among middle class (or at least, middle class-identified) Americans. Her supporters had not necessarily much concerned themselves with conservation prior to reading *Silent Spring*; instead, their responses to pesticide issues were newly environmental.²⁰

The ecological principles of interconnection gave some readers a basis for criticizing contemporary directions of science, technology, and progress. They read ecological complexities to imply that previous statistics and scientific knowledge were not complete. In order to account for such unknowns, they decided, scientists should change how they evaluated their data. According to one newspaper reader, "[Carson's] main point... is that then entire life processes, the 'web of life,' are still but poorly understood; the myriad, intertwining and incredibly interdependent relationships, from the inorganic nutrients, the soil bacteria, and on through the long chain of living forms that include the human animal and the lowliest worms, are something that science has hardly touched yet. In short, we just do not know the final result of suddenly disrupting these processes which have evolved so slowly to their present state; we should be cautious about fooling with something we do not yet understand, the ecology of which we are a part."²¹

This concept—"the ecology of which we are a part"—mandated caution in the face of the unknown: It came to be known as the precautionary principle.²² Humans' physical connections with nature made ecological ideas difficult for many people to ignore. Such intimate links also seemed to call for greater community input into decisions on science and technology.

Popular ecological ideas provided the basis for a critique of power in postwar America. Ecology helped people to take stands against the industrial, political, and economic relationships based on the assumption that manufacturers and distributors could legitimately spread toxic residues throughout human flesh and the rest of the environment. Another reader wrote to the *Portland Oregonian* that, "one has the right to put into our food, water, or the air we breathe, anything that jeopardizes our health, and consequently, our lives, without our consent. That is the very thing [chemical pesticides] are doing."²³ As philosopher Yaakov Garb has recognized, the *Silent Spring* debate centered not just on the facts about pesticides, but on the underlying principles of their evaluation and use.²⁴

The book split the scientific community. Scientists' reactions to *Silent Spring* were as wildly diverse as the public's. Many believed that an important paradigm change was occurring. Biologist Robert L. Rudd made it clear that in this shift, power lay with whomever controlled the definitions of risk and harm. "No one denies the value of pesticides in safeguarding ourselves and our food supply," he

stated. "All the points ... have been debated in the limited circles of technologists, regulatory officials, agriculturists, industrial representatives, and governmental policymakers. However, the era of closed debate has ended. Miss Carson's book has made the debate public property."²⁵ Rudd held that decisions about environmental risk and harm needed to include a wider range of voices. In the same vein as some concerned citizens, scientists like Rudd argued that existing knowledge was not comprehensive enough to predict the complex ecological effects of pesticides. Therefore, before society allowed certain members to deploy synthetic chemicals, it needed to err on the side of caution.²⁶

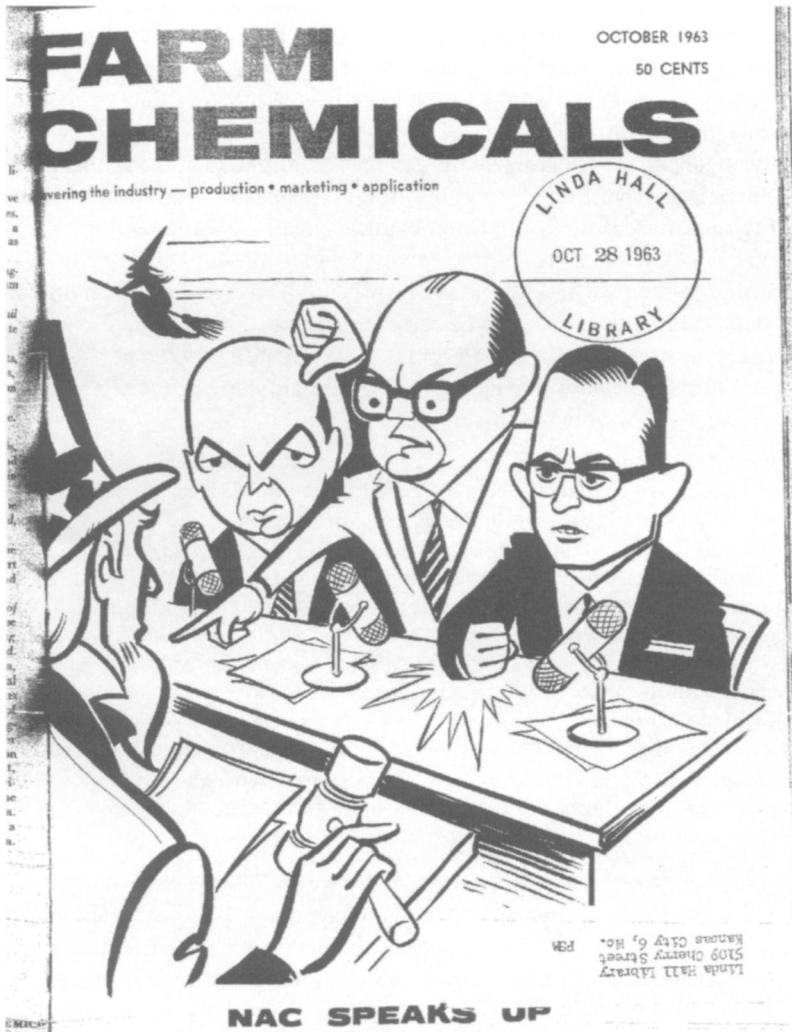
Other scientists disagreed. Some, while not dissenting outright, focused on debating the murky empirical facts about pesticides rather than the changing principles behind their evaluation. Not surprisingly, many producers of scientific facts argued for regulating pesticides on terms that they controlled—laboratory knowledge. They rejected Carson's argument that laboratory knowledge about pesticides was not perfect or comprehensive, especially once these substances entered ecological systems. In addition, economic entomologists, agricultural experiment personnel, USDA employees, and some chemists reacted strongly to Carson's charge that their "Stone Age" science was destroying human health and the natural world.²⁷

These scientists and some government personnel joined with elements of the pesticide, chemical, and food processing industries (as well as segments of the national media dependent on these industries' advertising) in condemning *Silent Spring*. These powerful elements drew together in defense of scientific authority, which some scholars have argued is based on linked rhetorics of objectivity and masculine power. Participants in the powerful backlash against the book maintained that the experts who controlled science and technology could indeed keep humans separate from nature and the effects of pesticides. They ignored Carson's argument that ecology implied the reorganization of scientific methods and priorities.²⁸

Just as firmly as Carson's critics rejected ecology, they also reinforced traditional social values. Rigid beliefs about the divisions between humans and nature correlated with strict definitions of gender. This framework served as the basis for most negative reactions to *Silent Spring*. As several observers have noted, attacks on Carson often occurred in gendered language. Her detractors equated the defense of power and pesticides a scientist's antithesis—a hysterical woman. Many of the harshest comments occurred in industry trade magazines, but similar rhetoric appeared in the public forum as well. A review in *Time* accused Carson of using "emotion-fanning words," making a case that was "unfair, one-sided, and hysterically overemphatic," an "emotional and inaccurate outburst," based on her "mystical attachment to the balance of nature."²⁹ Pro-pesticide forces portrayed Carson supporters through negative gender stereotypes as well, such as shrill, irrational housewives.³⁰

Participants in the backlash against Carson portrayed themselves as opposite to another negative feminine stereotype—witches. In a cover illustration from *Farm Chemicals* magazine, a witch on her broomstick zoomed through the

Figure 1. Pesticide Critics as Witches.



Farm Chemicals 126 (October 1963).

The three men in the cartoon portray actual agrichemical representatives who testified at the 1963-1964 Ribicoff hearings on the dangers of pesticides to humans and the environment. Many industry and government representatives were present, but other than Rachel Carson, almost no conservationists attended the proceedings.

background, an unsubtle industry reference to Carson (see Fig. 1). Other pesticide supporters also invoked witches. One article quoted Dr. Robert Metcalf, vice-chancellor of the University of California at Riverside, as asking whether “we are going to progress logically and scientifically upward, or whether we are going to drift back to the dark ages where witchcraft and witches reign. ... There are signs people do lean toward ‘witchery,’ and not only on the subject of pesticides. There

are food faddists, and quacks in the medical field, and persons who oppose fluoridation of water.”³¹ The voices in the backlash argued that when Carson questioned pesticides, she revealed herself as a bad, misguided, unreliable woman—a powerful force of social disorder. This exclusively feminine brush also tainted anyone else who aligned with her ideas. Exploring Carson’s ecological ideas meant inviting social chaos.³²

Several observers recognized this gender-hazing as a tactic to shape the debate over pesticides according to the rules of industrial capitalism—which identified itself with a masculine norm. One headline succinctly summed up the battle: “Woman vs. Man vs. Bugs.”³³ In another instance, an essay comparing Carson and author Jessica Mitford (who had recently published an expose on the funeral industry), columnist Lucius Beebe commented that the “reproach to masculine superiority is almost unendurable.”³⁴ Likewise, in a discussion of the corporate and bureaucratic powers driving the backlash against *Silent Spring*, a *Richmond News-Leader* editorial made this point:

That a citizen, given a choice, might elect the song of the warbler over the sound of the cash register seems to them a piece of staggering lunacy. Such ideas could only be held by dizzy dames, bug ladies, organic gardeners, and “laymen.” People are a nuisance. They don’t know what is good for them. All we urge in these matters is some sense of balance, some deference to the unregimented perversity of the human spirit. No responsible person would suggest that all pesticides be prohibited. No one would suggest that birds and wildlife and wildflowers should be preserved in every case. But what is needed from our bureaucratic masters is some acknowledgment that other considerations do exist and that many persons regard them as important. ... Let us rid ourselves of the terrifying notion that always and everlastingly, material values come first. They don’t. For the wing of a finch is also gold, and there are those of us, tolerably sane citizens, who would rather hear one whippoorwill [sic] at dusk than the horns of a dozen diesels, bound for the produce market.³⁵

Smart men supposedly ignored dizzy dames and all the rest, listening not to the whippoorwill but to cash registers. Even “laymen” kept questionable company. By contrast, sensible men identified with experts, allowing them to speak for their concerns. (By definition, “expert” meant a man: Carson was a scientist, but her detractors often denied her expertise on the basis of her gender.) Regardless, this writer still connected negative gender stereotypes about women—“dizzy dames” and “bug ladies”—with efforts to limit the discussion about pesticides, and marginalize debate about the full range of human connections with the environment. At least some readers of *Silent Spring* recognized that the powers driving the backlash drew their strength from negative gender stereotypes about Carson and her supporters.

In the *Silent Spring* debate, the often flagrant anti-feminine language from Carson’s attackers has tended to overshadow a fuller examination of masculinity in the conflict. However, ecological ideas did contain the capacity to shift understandings of masculine and feminine alike. One cartoon, for example, cleverly picked up on the idea that masculinity and femininity are inextricably

Figure 2. Backyard Battle.



Frank Miller, "Backyard Battle," *Des Moines (Iowa) Register*, 26 July 1962. Courtesy Beinecke Rare Book and Manuscript Library, Yale University. Copyright 1962, reprinted with permission by *The Des Moines Register*.

As women raised their voices in the battle over pesticides and *Silent Spring*, did the stature of men—especially male scientists—then diminish? Note the relative scales of the male and female figure in this illustration. Carson and *Silent Spring* served as the subject of many editorial cartoons published between 1962 and 1964.

joined and mutually constitutive. The artist portrayed an unidentified woman and a male scientist facing off in a "Backyard Battle." Features obscured by a gas mask, the woman is armed only with a fly swatter and a sheaf of papers labeled "The Dangers of Poison Sprays." The scientist fends her off with a presumably toxic spray can exuding a cloud of fumes, while in the other hand he clutches a long, missile-like, and suggestively phallic object—tilted downwards. Monstrous, with masculine, muscular hands and forearms, the woman towers over the diminished, feeble physique of the male scientist. If the female figure is meant to represent Carson, then note that she is not dressed as a scientist at all; the garb is rather that of a housewife (see Fig. 2).

The cartoonist recognized that in the pesticide debate, masculine and feminine were inextricably intertwined. For the feminine to gain power, the implication is that the masculine must lose it—and then must compensate somehow. Many of Carson's detractors seemed to perceive a similar power struggle between humans and nature—a constant battle for dominance.

Traditional ideologies of masculinity often masquerade as, in Simone de Beauvoir's words, the "absolute human type"—the normal. Men in power define the status quo, as well as deviations from it.³⁶ During the *Silent Spring* debate, some factions used this disembodied, masculine-identified power to try to limit the debate over pesticides and to decry or exclude ecological concerns. Carson's detractors used gender stereotypes to mark her ideas as hysterical and extreme and to justify dismissing her ecological discussion of the unknown long-term effects of synthetic chemical pesticides. This stereotyping defined the dominant version of masculinity that operated in negative reactions to *Silent Spring*: Male experts held tight to power over women and nature; supported the economic, political, technological, and social status quo; and defined any dissenting opinion as feminine and thus a threat.

However, Carson represented the biggest threat not in her role as a hysterical, angry, powerful woman—the role in which her attackers deliberately tried to cast and confine her. Rather, at her most dangerous, Carson blurred the categories of humans and nature, and thus demonstrated one strategy in challenging a social system based on similar oppositions. She took a step outside the value system that gave meaning to the connections between femininity, hysteria, witchcraft, dissent, and alternative visions of nature. As her example proved, ecological ideas threatened to change far more than people's ideas about nature. This paradigm shift had the potential to affect social, economic, and political structures as well. Not surprisingly, many readers rejected *Silent Spring*, or did not know initially what to make of Carson's ideas.

Still, some voices found that ecological concepts impelled them to go beyond traditional conceptions of gender and explore new ideas of nature. This shift took place across a cross-section of society, but an especially intriguing gender picture emerges among conservationists.

"THE BIRDS AND BUNNY BOYS"

INSPIRED BY the pesticide debate, a few conservationists quickly embraced ecology.³⁷ Carson's book was a sign to reject the "Old" conservation in favor of the "New," according to a 1962 editorial in *The Conservationist*. "The New Conservation emerges because of the widespread and largely invisible filtration of new chemicals into the fabric of life," writer James Gavagan explained. New conservationists faced new environmental problems, especially "compared with the old problem of the game hog and the rape of the forests. The chemical damage to the basic life fabric is frequently permanent. It is widespread. And it directly affects all citizens. In short, it may be your cat which is poisoned by the dieldrin aimed at the Japanese beetle." Gavagan also warned that "every citizen" must

take action “if he would like to hear a bird song at morning, or feed his infant child without wondering whether the baby food contains poison.”³⁸ Founded on ideas about resource use and wilderness preservation, the old conservation paradigm did not encompass modern environmental concerns.

To see nature through the lens of ecology, some readers stepped outside traditional gender roles. According to Gavagan, the conservation agenda now had to include house pets, baby food, and human health—intimate aspects of one’s environmental surroundings. His argument also reflected a diversion from mainstream concepts of masculinity. This shift did not necessarily mean that environmentally concerned men got in touch with a stereotypical “feminine side.” Rather, these men expanded their concerns as mostly middle-class husbands and breadwinners to take more active roles in defining their quality of life. In a public way, they ventured into the private and formerly feminine worlds of home, gardening, and childcare.³⁹

These men’s masculine identities were flexible enough to include ecological ideas. In contrast, the masculine framework driving the fight against Carson excluded them. Ecological ideas were not necessarily feminine (no matter what those who disagreed with Carson might say), but they were not exactly masculine, either, especially with their most public spokesperson a woman. Even as the boundaries blurred between humans and nature, the lines separating masculine and feminine lost some distinction as well. The result was a gender script that had the potential to transcend the traditional notions of masculine and feminine, and pointed toward alternative gender identities.

As a result, unexpected alliances occurred in the debate over *Silent Spring*. Following the general direction that Aldo Leopold had taken almost twenty years earlier, a strong grassroots force of hunters and outdoorsmen spoke up in support of Carson. In the fight against synthetic chemical pesticides, Carson and her activist friend Marjorie Spock had long seen hunters and fishermen as “good allies.” From Carson’s years with U.S. Fish and Wildlife, she still maintained connections to some hunting and fishing groups. In *Silent Spring*, Carson deliberately appealed to this readership. “To the bird watcher, the suburbanite who derives joy from the birds in his garden, the hunter, the fisherman or the explorer of wild regions,” she wrote, “anything that destroys the wildlife of an area for even a single year has deprived him of pleasure to which he has a legitimate right. This is a valid point of view.”⁴⁰ Carson argued that recreational, aesthetic, even spiritual concerns should be included in assessing the dangers of pesticides.

Based on the evidence of outdoorsmen’s letters and columns, this newly environmental faction ranged solidly behind Carson. All over the country, many outdoors columnists penned worries about pesticides, primarily in smaller-market papers. “*Silent Spring?* No, But There Was This Dead River,” read one headline in the *Hutchinson (Kan.) News*. Overwhelmingly, these outdoorsmen grasped Carson’s arguments about the ecological effects of pesticides. To support *Silent Spring*, many outdoorsmen referred to their own observations and experiences. In the area of Bangor, Maine, one man reported witnessing major

Figure 3. A Masculine Criticism of Pesticides.



A friend probably clipped the cartoon (ca. 1962-63) and sent it to Rachel Carson, which she in turn kept in her files. Courtesy Beinecke Rare Book and Manuscript Library, Yale University.

Since his creation by Ed Dodd in 1946, cartoon outdoorsman Mark Trail has taught readers of the comics to conserve their natural resources. In this early piece, Mark Trail warns of the dangerous insecticide and nuclear waste residues that penetrate all levels of the environment.

fish kills in the wild after aerial sprayings of DDT. Perhaps because of their already close connections with the environment, these outdoorsmen were particularly sensitive to Carson's point that man was an ecological part of nature. Moreover, they considered their observations to be no less valid than scientific discoveries in the laboratory.⁴¹

Many of these men used ecological ideas to criticize current directions in science and technology. As outdoor columnist John Anderson wrote in the *Sandusky (Ohio) Register*, "In addition to moon rockets, H-Bombs, and super people killers, we should develop some way to control insects and weeds without poisoning ourselves in the process."⁴² Such sentiments often ran alongside anti-corporate feeling. "Insecticides ... Big Poison is Destroying Our Wildlife," read a headline from the "All Outdoors" column in the *Atlanta Journal and Constitution*. These reactions reflected an understanding that the debate over pesticides and ecology was also a debate about who held power in society. In the national media, the popular cartoon "Mark Trail" beautifully distilled *Silent Spring's* main ideas into a powerful graphic format. Despite Mark's gruff disclaimer that he wasn't "given to soap box oratory," the piece criticized how man contaminated his environment with nuclear waste and pesticides—albeit without directly mentioning Rachel Carson (see Fig. 3).⁴³

An alternative vision of masculinity consistently threaded through this dissent. As several writers have argued, a dominant masculine ideology of the time was the image of a white-collar man, devoted to his work as an efficient cog in corporate culture.⁴⁴ Nature did not appear in this vision. In contrast, the outdoorsmen's words called up the image of an independent man—much like Mark Trail—intimately connected to nature and standing against what threatened it. These men wanted not to dominate or dismiss nature, but to preserve it, and to preserve their own quality of life as well. This inclusive, protective masculine identity also surfaced in discussions of future generations. Carson's description of insect resistance to pesticides convinced Roy Attaway that trying to control nature led to a vicious cycle, where "man has to use a stronger poison until finally he kills his own livestock, or his favorite fish, bird, or mammal, which may include his unborn grandson."⁴⁵ Outdoorsmen often used ecological ideas to argue for nurturing future generations and against risking their grandchildren's quality of life.

Ecological ideas also included another quality-of-life issue—human health, and the integrity of the flesh. Again, Attaway wrote eloquently: "It has been said that the human body is capable of assimilating substantially large quantities of poison without harm, that when a certain saturation point is reached, the excess is sloughed off." He asserted that this "may be a chemical fact, but it is a moral indignation." Attaway concluded: "Most important of all, Rachel Carson raises one burning question: who has the right to poison the air I breathe? The water I drink? The food I eat? I am not, nor should anyone else be, satisfied with the reply that it is done under the nebulous banner of progress, because the next obvious question is: progress toward what? slow annihilation?"⁴⁶

Manufacturers and government regulators presumed citizens' consent to such daily toxic exposures. In contrast, Attaway cast this penetration as an unwanted invasion. His acknowledgement of such a vulnerable, ecological body crossed another gender boundary. Flesh so fragile before power was traditionally feminine, rather than masculine in nature.⁴⁷ Such chemical transgressions represented almost a rape of the cell.

Hunters and outdoorsmen have the reputation of being among the most conservative of conservationists. For this group to include health, home, and quality of life issues into their conception of nature represented an important grassroots shift. In challenging the accepted uses of synthetic chemical pesticides, men like Roy Attaway based their dissent on an alternative foundation of masculinity and nature. These gender descendants of the archetypal "frontiersman" came to consider the potentially gender-transcending ideas of popular ecology. Their vision of the environment had changed. Based on their intimate, ecological grasp of nature, these men called for an environmental ethic of caution and restraint.

Members of the Audubon Society provide another example of conservationists who began tweaking or transcending traditional gender roles at the same time as they explored ecological ideas. Founded as separate local chapters of birdwatchers, by the 1960s both local and national chapters of Audubon had

become involved in wildlife and habitat preservation. Audubon leadership was receptive to Carson's ideas, although President Carl Buchheister did not allow the organization to endorse *Silent Spring* officially.⁴⁸ Still, many Audubon members threw themselves wholeheartedly into the fight against synthetic chemical pesticides. "Most readers of *Audubon Magazine* are aware of the threat, but the great majority must be aroused in order to stop this gambling with the balance of nature and the lives of people unaware of the hazards that they are facing," one member wrote. "Why must innocent creatures and valuable plant life suffer? Just so a small minority can make money? Thank God for crusaders such as Rachel Carson!"⁴⁹

Audubon members' visions of nature also reflected their direct, everyday experiences of ecological relationships. Much like the outdoorsmen who supported Carson, Audubon members understood wilderness as existing close to home; many watched the "wild" in full flutter around their feeders every morning. Several readers of *Audubon Magazine* understood the pesticide issue on this immediate level. Drawing on their own experiences and observations, an alert corps of Audubon observers often wrote about the dangers of pesticides. The magazine published several of their graphic accounts of birds poisoned and dying from DDT. Likewise, *Audubon* readers reasoned that pesticides' effects on wildlife indicated potential problems for human health as well.⁵⁰ Adopting ecological ideas meant not only understanding that humans and nature were linked, it also meant grasping the physical intimacy of that connection.

Shifting boundaries of gender also accompanied Audubon members' increasingly environmental ideas. Female Audubon members were crucial in defending Carson. In keeping with a long historical pattern of maternalist protests, some also claimed that their roles as mothers and housewives gave them special standing to exercise a public voice and critique science and technology's invasion of the private sphere.⁵¹ However, other women did not preface their criticism with even a token nod toward their supposedly subordinate social status. "The critics of Rachel Carson's *Silent Spring* are not aware of the hard facts that their own lives are endangered by the cumulative effects of the indiscriminate use of biocides in the environment, soil, water, air, and food," Audubon member Ruth Scott wrote to the editor of the *Pittsburgh Press*. "Technology has outdistanced biological knowledge and has given an impression of superiority."⁵² Like Carson, Scott took it for granted that there existed a basic human right to criticize society. This right transcended gender roles.⁵³

Compared to other mainstream conservation groups, Audubon had many female members. In addition, extensive crossover membership appears to have existed between Audubon and garden clubs, traditionally women's domains. Of course, many men were involved in Audubon as well (for example, Carson's editor Paul Brooks). Men also composed most of Audubon's national leadership. However, even some of these men linked Audubon's agenda to more feminine concerns, and feared that it hampered the effectiveness of their activism. Audubon staff biologist Roland Clement once observed that "the birds and bunny boys" did not exercise a great deal of influence.⁵⁴

As Clement's comments suggest, gender-hazing tactics operated in the conservation movement as well. Concerned citizens were becoming environmental, but powerful elements of conservation leadership resisted. To reject new ecological ideas about humans and nature, they clung to a traditional framework of nature and gender.

PROBLEMS WITH CONSERVATION

GENDER PERMEATED the initial debate over *Silent Spring* and ecological ideas, from ideologies and stereotypes to competing practices and new explorations. Regardless of how it played out, there appeared an undeniable connection between environmental and social change. In questioning the boundaries between humans and nature, Carson unintentionally had questioned the lines between humans, such as those defined by gender. It seemed possible that for American society to reform its attitude about nature and pesticides, its social structure also would have to change.

In response, Carson's detractors—including some conservationists—tightened the entire cultural system of oppositions. For some of the negative conservation responses, gender was again obvious in openly anti-feminine rhetoric. However, gender also appeared in the more subtle guise of holding to a related opposition between wilderness and civilization, and humans and nature. Masculinity had long functioned as an anchor for some strands of wilderness thinking.⁵⁵ This model of rugged individualism did not immediately lend itself to anti-pesticide activism based on a view of humans and nature as intimately entwined. Some conservationists—many involved in wilderness preservation—hesitated on the verge of fully committing to ecological ideas.

Negative conservationist reactions to *Silent Spring* also demonstrated a widening gulf between local level conservationists and the national organizations that represented them. For example, national outdoors organizations and magazines reacted much differently to Carson's book than had outdoors columnists in local and regional newspapers. In their official journal, the National Wildlife Federation (NWF) strongly objected to Carson with an article titled "Pesticides: Man's Blessing or Curse?" A conservative conservation group with industry ties, NWF concluded that pesticides had been a blessing and Carson's critique had gone too far. "Most conservationists are not extremists who demand that we stop using chemicals," the journal told its readers. (In fact, Carson never made this demand.) The article claimed that Carson had hyped "mole-hill problems" that would "overshadow a mountain of good." The article was reprinted in newspapers across the country.⁵⁶

Such conservationist attacks followed along the same lines as those in other forums: Man did dominate nature, and this domination reaped short-term benefits, not long-term burdens. Human health was a matter of maintaining an abundant food supply to fight off famine and malnutrition, not of investigating the potentially harmful long-term health effects of pesticides. Science and technology successfully kept humans and nature separate. Carson and her

supporters were hysterical and over-emotional (read, feminine) for suggesting otherwise. Nature legitimately served as the raw material, waste disposal site, and chemical dispersal reservoir for industry. All other uses—including hunting, fishing, and hiking—were secondary. Altogether, these attacks rejected or ignored ecological ideas, especially the public's immediate, everyday concerns about environmental health and the quality of life. The argument's fundamentally gendered stance reassured readers that other hierarchical divisions organizing the world were still safely intact: humans from nature, wild from domestic, dissent from consensus.⁵⁷

In its coverage of hunting and fishing, *Sports Illustrated* published such an argument (one also authored by a woman). "The Life-Giving Spray" offered the seminal image of man, not nature, controlling agricultural fertility. The article argued that pesticides had "helped produce the nation's healthiest wildlife crop in many decades." Man managed wildlife resources as he ran farms: "[C]ropland and pasture grow game as well as grain and livestock; skillfully managed timber and grazing lands provide the game with new and improved range and cover." The "wise and discreet use of chemical pesticides" assured "not a silent spring, but of seasons filled with all the rich, new sounds of animal and human prosperity." The only dangers that pesticides posed were occasional accidents from misuse (not reading the directions carefully, or disposing improperly) or abuse (people used these substances to commit suicide, or left them in the reach of children). "The Life-Giving Spray" did not address Carson's larger arguments about the unknown ecological and long-term effects of pesticides.⁵⁸ By ignoring ecology, the article tacitly allowed its readers to do the same, and once more reaffirmed the boundaries between humans and nature.

Nature existed only in reference to the priorities of industrialized agriculture: *Sports Illustrated's* assumption that wildlife could be farmed, much as soybeans, wheat, or corn, reflected this belief. During the early 1960s, a pro-pesticide, pro-industrialized agriculture stance was not unusual for outdoorsmen also committed to resource conservation. *Field and Stream* ran a pro-pesticide article written by a self-declared "lifetime sportsman, conservationist, and crop sprayer."⁵⁹ The advertising in national outdoors magazines displayed similar connections. Cigarette companies were major advertisers, and tobacco production deployed enormous applications of pesticides: Many national outdoors magazines directly or indirectly sided with their advertisers' interests, informing readers that man's domination of nature through pesticides conferred important benefits, such as unlimited access to food. Questioning an industrial, resource-based vision of nature—and considering ecology—risked losing these benefits.

Attacks against Carson in major sporting publications reached an audience of predominantly male readers. At the same time that these articles reinforced man's domination of nature, they backed off from exploring pesticides' ecological implications. Likewise, they aligned themselves with the same ideology that also supported negative gender attacks against Carson. Yet other conservation organizations were ambivalent on the topics of Carson and pesticides. Even the Sierra Club initially approached *Silent Spring* and ecological ideas with mixed

emotions. The club's agenda focused on defensive battles protecting specific endangered areas or species, and many members already had expressed qualms about taking on new environmental issues. Before *Silent Spring*, the club's national bulletin published acerbic debates over whether population growth constituted a valid conservation concern.⁶⁰ At first, the Sierra Club also treaded warily around an ecological paradigm.

Still, the Sierra Club leadership officially endorsed Carson's book. As David Brower argued: "Chemists say they know what they are doing. We are sure they do—up to a point. It is at this point that Miss Carson's alarming analysis begins."⁶¹ The *Bulletin* also published wildlife biologist Clarence Cottam's strongly supportive review of *Silent Spring*. Reactions from *Bulletin* readers, however, were mixed. Identifying himself as an "organic chemist involved in pesticide research," one angry member asserted that "I do not think it is the business of the club to become involved in the controversy over the merits of *Silent Spring* or much less to impugn the scientific integrity of its critics." "If the Directors of the Club felt compelled to publish in this complex area," he scolded, "they should have presented an informative appraisal of the toxicity problem as has been done recently by several scientific journals."⁶² The writer objected strongly to a lay organization using ecological ideas to encroach into his professional territory.

Evidently thinking that the conservation press was qualified to question science, several Sierra Club members responded in support of Cottam's review. Another letter writer, however, also assumed that the traditional agendas of conservation and the Sierra Club were inseparable from modern industrial progress. This author wrote that as "a serious member of the Sierra Club and a member of the agricultural chemical industry I cannot help viewing this type of article with some alarm for both the future of the pesticide industry and for the future of the Sierra Club, as a leading influential force in furthering objectives of conservation."⁶³ Likewise, Thomas Jukes, a former employee of American Cyanamid and one of Carson's major detractors, fired off a furious letter to Carson's editor and prominent Audubon member Paul Brooks. "My professional life has been spent in an endeavor to combat hunger and disease by means of scientific research," Jukes declared. "As an avocation I am a life member of the Sierra Club; I founded one of its chapters. My viewpoint is that the wilderness is for wildlife and that farms are for the production of crops."⁶⁴

By addressing pesticides within their ecological context, Carson had argued that such categories were not distinct. Some lifelong members of the Sierra Club felt that a wilderness forum was the proper place to raise such concerns. Others disagreed. Internal tensions in the complicated idea of wilderness made such a split possible. Regarding pesticides and Rachel Carson, Brower and Jukes held radically different opinions. However, both their ideas still depended on a similar basic assumption: that human enterprise and wilderness should remain separate entities. For completely different reasons than wilderness advocates, some members of science and industry apparently believed in a similar distinction. The premise of a separation between humans and nature created problems when conservationists tried to incorporate ecological ideas into their agendas.⁶⁵

The Sierra Club flap over *Silent Spring* might be viewed as the result of excellent public relations from the interests mobilized against Carson. Yet, the club's own coverage of pesticide issues also revealed internal ambivalence about integrating pesticides into their wilderness-based agenda. The Sierra Club consistently took on Carson's message in parts, not as a whole. It focused on issues of pesticides and wildlife, leaving at the margins—or even untouched—problems of pesticides and human health. The *Bulletin* concentrated on debates over spraying in National Forests, such as Tuolumne. Especially compared to its extensive coverage of the Wilderness Bill's legislative progress, the *Bulletin* gave almost no mention to the Ribicoff hearings.⁶⁶ In the overall debate about pesticides, the Sierra Club sidelined itself, focusing instead on wilderness goals.

In the wake of *Silent Spring*, the Sierra Club displayed no immediate shifts in its visions of nature or social roles. It continued to share the same ideological foundation as the gendered backlash against Carson—a separation between humans and nature, and the exclusion of the everyday, intimate interactions of humans within the home environment. In part because of its commitment to wilderness, the Sierra Club took a long time to integrate *Silent Spring's* ecological message, and to synthesize human health and wilderness into one agenda. Eventually, this same quest came to define the evolution of the environmental movement.⁶⁷

The idea of wilderness is complicated. As Donald Worster has observed, wilderness serves as an important ethic of environmental restraint.⁶⁸ Though wilderness depended on boundaries between humans and nature, in the pesticide controversy that division was not necessarily problematic. The problem was that these boundaries depended on a dynamic of conflict and inequality. As the "Backyard Battle" cartoon suggested, the two forces were locked in a struggle for dominance; what elevated one diminished the other. In a continuum defined by unequal opposites, the automatic interaction was one of struggle or uneasy tension. While Carson had warned that man's domination of nature was an outmoded ideal, many conservationists still used rhetoric that assumed that man had conquered wilderness. In the words of Secretary of the Interior Stewart L. Udall, "[o]ur mastery over our environment is now so great that the conservation of a region, a metropolitan area, or a valley is more important, in most cases, than the conservation of any single resource."⁶⁹ As a *National Parks* editorial speculated: "The science of the West, and not merely its technology, has probably been motivated from its earliest beginnings by the impulse toward such mastery over nature, toward power. The impulse toward outward power was paralleled, perhaps even preceded by, a similar impulse toward power over inward nature, over the supposedly anarchic emotional impulses of the self."⁷⁰

Dominating the wilderness that raged without, controlling the emotion that churned within: In the early 1960s, this sense of a power struggle between humans and nature remained central to ideas of wilderness.

For some, the complicated meanings of wilderness caused problems with the shift from conservation to environmentalism. The problem lay not only with wilderness organizations. Conservationists had good reasons to be wary of

Carson's ecological appeal on behalf of both humans and wildlife. Some of her readers concentrated on pesticides' effects on human health, and almost ignored their effects on wildlife. Conservation-minded observers caught this oversight at once. "Very few people, unfortunately, really care about what happens to songbirds and wildlife," one woman observed, "but let someone mention cancer and the overall effects of poisonous chemicals on human life, and they begin to sit up and take notice." Another cynically observed that the "truth is that man becomes greatly aroused only when his own life is under threat (and not always then)."⁷¹ Between wilderness and human health, many conservationists perceived a conflict of interests. In applying an ecological approach to conservationists' political agendas, environmental health supporters might have the ability to drown out wilderness advocates.⁷²

Many of the same conservationist voices that disagreed over pesticides rang out in near unison at congressional hearings on wilderness. In 1964, the Wilderness Bill finally became law around the same time that the Ribicoff hearings disintegrated. The Ribicoff hearings concluded with no significant legislative results. In contrast to conservationists' activism on behalf of the Wilderness Bill, no conservation groups testified at the hearings on pesticides.⁷³ DDT was not outlawed in the United States until 1972.⁷⁴ Sorting through the gendered cultural implications of ecological ideas limited many conservation organizations' initial reactions to *Silent Spring*, and slowed or complicated their adoption of anti-pesticide agendas.

CONCLUSION

SILENT SPRING did mobilize conservationists. It also troubled them. Gender pervaded the *Silent Spring* debate, and its constant presence testified to the intertwined nature of social and environmental change. The gender-bending that occurred in some conservationists' reactions to *Silent Spring* was not as simple as a shift from one end of a spectrum to another: men taking on feminine traits, women becoming masculine. Rather, when some people tried to follow cultural gender scripts within the larger context of popular ecological ideas, they also found themselves transcending traditional categories and stepping into a new paradigm of both nature and gender. Those who resisted *Silent Spring* and ecological ideas were reacting in part to this new, unknown cultural dynamic.

One result of looking at an integrated picture of gender in the *Silent Spring* debate, then, is recovering people's visions of alternative ways to interact with one other and their environment. An important strand in all environmental action is how participants come up with a shared idea of nature that provides the basis for their collective action. The role of gender in this important incident in the early roots of environmentalism also raises other questions about gender and environmental change. As gender has shaped popular ecological thought, how has it factored into the evolution of ecology as a science? What role has gender played historically in assessments of environmental risk? Are qualities of fearlessness, bravery, prowess, invulnerability, and the like associated with

masculinity and the norm? Is the precautionary principle seen as less than manly, if not feminine, in nature? A historical perspective on gender and the environment can make a valuable contribution to our understandings of environmental risk and decision-making today.

Gender is not just a concern of women—or men. It is a human concern. In parts of *Silent Spring*, Carson described ecological concerns about pesticides as fundamental issues of human rights. “We have subjected enormous numbers of people to contact with these poisons, without their consent and often without their knowledge,” she wrote. “If the Bill of Rights contains no guarantee that a citizen shall be secure against lethal poisons distributed either by a private individuals or by public officials, it is surely only because our forefathers, despite their considerable wisdom and foresight, could conceive of no such problem.”⁷⁵ The initial debate over *Silent Spring* revealed that another paradigm was emerging, inchoate yet powerful. Gender seemed a means, rather than an end, to exploring what this new popular ecological vision would mean—for the shared futures of humans and their environment.

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NOTES

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1. Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962).
2. This article builds on an earlier piece arguing that Carson's concept of an ecological human body helped set the foundation for the rise of environmentalism, and that shifting ideas of the body in turn influenced gender in the *Silent Spring* debate. See Maril Hazlett, “Voices from the Spring: *Silent Spring* and the Ecological Turn in American Health,” in *Seeing Nature Through Gender*, ed. Virginia Scharff (Lawrence: University of Kansas Press, 2003), 103–28.
3. Samuel Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920* (1959; reprint, New York: Atheneum, 1975).
4. Samuel Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955–1985* (Cambridge: Cambridge University Press, 1987). For important ideas in the history of ecology during this time period, see Donald Worster, *Nature's Economy: A History of Ecological Ideas*, 2nd ed. (Cambridge: Cambridge University Press, 1994). See also Adam Rome, “‘Give Earth a Chance’: The Environmental Movement and the Sixties,” *Journal of American History* 90 (September 2003): 525–

- 54; Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, D.C.: Island Press, 1993).
5. Roy Attaway, *Post-Courier* Outdoorsman, "An Unpleasant Thought," *Charleston (S.C.) News-Courier*, 28 October 1962, Rachel Carson Papers, Beinecke Rare Books and Manuscript Library at Yale University, (hereafter RCP/BLYU).
 6. There exists a large and valuable literature on Carson and *Silent Spring*. This essay depends most heavily on Linda Lear, *Rachel Carson: Witness for Nature* (New York: Henry Holt & Co., 1997); as well as Paul Brooks, *The House of Life: Rachel Carson at Work* (Boston: Houghton Mifflin, 1972); Thomas Dunlap, *DDT: Science, Citizens, and Public Policy* (Princeton: Princeton University Press, 1981); Frank Graham, *Since Silent Spring* (Boston: Houghton Mifflin, 1970); and H. Patricia Hynes, *The Recurring Silent Spring* (New York: Pergamon Press, 1989). Specifically on gender and *Silent Spring*, see, in addition to the Lear and Hynes books, Doris Z. Fleischer, "Silent Spring: Personal Synthesis of Two Cultures," *Bulletin of Science, Technology, and Society* 13 (1993):200-02; "Voices from the Spring", Vera Norwood, *Made From This Earth: American Women and Nature* (Chapel Hill: University of North Carolina Press, 1993), 143-71; Michael B. Smith, "Silence, Miss Carson!" *Science, Gender, and the Reception of Silent Spring*, *Feminist Studies* 27 (2001): 733-55. Some of Carson's defenders invoked stereotypes as well, portraying Carson as gentle and feminine. See Margaret Clark, "Author Carson is Small, Pretty, and Dynamic," *Brockton Daily Enterprise*, 19 January 1963; Ann Cottrell Free, article syndicated through North American Alliance, "Pesticides: One Tiny Woman Jolts Industry," *Anderson (S.C.) Independence*, 29 January 1963, all in RCP/BLYU.
 7. This analysis is also influenced by ecofeminist ideas, including Carolyn Merchant, *Earthcare* (New York: Routledge, 1995); Susan Griffin, *The Eros of Everyday Life: Essays on Ecology, Gender, and Society* (New York: Anchor Books, 1995); Rosemary Radford Ruether, "New Woman and New Earth: Women, Ecology, and Social Revolution," in *New Woman, New Earth: Sexist Ideologies and Human Liberation*, ed. Rosemary Radford Ruether (1975; reprint, Boston: Beacon Press, 1995), 186-211. See also Donna Haraway, "A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism," in *Feminist Social Thought: A Reader*, ed. Diana Tietjens Meyers (New York: Routledge, 1997), 502-31; and Evelyn Fox Keller, *Reflections on Gender and Science* (New Haven: Yale University Press, 1985). Of course, Carson wrote before the concept of ecofeminism evolved. Nor did she seem to have considered herself a feminist.

As Virginia Scharff has noted, gender varies in both time and place. Likewise, ideas of nature and gender mutually shape one another in a sort of cultural grammar or script. See "Introduction," in *Seeing Nature*, ed. Scharff, xii-xxii. This paper compares strict gender ideologies with fluid gender practices (as far as that itself is a workable opposition). It defines gender ideology as that fairly consistent stream in western thought that sets up masculine and feminine, as well as other qualities, in a hierarchical opposition: for example, culture versus nature, civilization versus wilderness, mind versus body, objective versus emotional, and public versus private.

Of course, limits do exist to a gender analysis of *Silent Spring*, even one that includes aspects of both masculine and feminine. Most importantly, the record of the debate over *Silent Spring* holds enormous gaps. Of the remaining letters and responses to Carson, all we can really now know of the writers is their gender. Other social indicators (age, class, race, religion, and the like) are long gone. Likewise, many crucial voices in creating environmental change over the past forty-odd years do not appear in these sources: for example, agricultural workers, migrant workers, and pesticide factory workers, groups that suffered by far the most extensive pesticide exposures. Newspaper clippings preserved in the Carson archives also show a bias toward larger

market papers, and are almost completely void of articles from media in ethnic communities. When lost voices do surface, they are often muted, fragmented and out of context, or translated by others. For more discussion of these problems, see ch. 5 of my dissertation, "The Story of *Silent Spring* and the Ecological Turn."

8. One exception is Hynes, who explicitly explores ideas of masculinity and patriarchy in the corporate response to *Silent Spring*: See, *Recurring Silent Spring*, 115-39.
9. Rachel Carson to Dorothy Freeman, 1 February 1958, in *Always, Rachel: The Letters of Rachel Carson and Dorothy Freeman, 1952-1964*, ed. Martha Freeman (Boston: Beacon Press, 1995), 248-49.
10. Born in 1907 in western Pennsylvania, Carson majored in English and biology at the Pennsylvania College for Women (now Chatham College), and earned a master's degree in zoology from Johns Hopkins in 1935. She had intended to earn her Ph.D., but was forced to drop out of school in order to help support her family. She found a job with the U.S. Bureau of Fisheries, which eventually became the U.S. Fish and Wildlife Service, working as a science writer and editor instead of as a research scientist. At the time, the sciences were not a hospitable environment for women. The predominant belief was that women were not intellectually or physically suited for the rigors of scientific careers. Women scientists most often worked in support positions, rather than in direct research. See Margaret W. Rossiter, *Women Scientists in America: Before Affirmative Action, 1940-1972*, vol. 2 (Baltimore: Johns Hopkins Press, 1995), 304-32.
- Carson wrote her first and second books, *Under the Sea-Wind* (New York: Simon and Schuster, 1941) and *The Sea Around Us* (New York: Oxford University Press, 1950), while still employed fulltime. Her second book became a bestseller, and she quit her job and went on to write *The Edge of the Sea* (Boston: Houghton-Mifflin, 1955). Rather than pesticides, Carson actually had planned to write her fourth book on the topic of evolution. As a popular writer, Carson had long explored the various connections between humans and nature. She also regularly incorporated ecological concepts into her work. Throughout her life—while working as a scientist, remaining unmarried, and providing the major financial support for her family—Carson quietly upended many traditional gender roles. In the *Silent Spring* controversy and even in the scholarship, she has remained an elusively gendered figure, transcending such boundaries rather than remaining confined by them.
11. William Cronon, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W.W. Norton & Co., 1995), 69-90; Gottlieb, *Forcing the Spring*; Merchant, *Earthcare*; Roderick Nash, *Wilderness and the American Mind*, 3rd ed. (New Haven: Yale University Press, 1982); Donald Worster, "Fear and Redemption in the Environment Movement," in *Ideas, Ideologies, and Social Movements: The United States Experience since 1800*, ed. Peter A. Coclanis and Stuart Bruchey (Columbia: University of South Carolina Press, 1999), 158-72; Worster, *Nature's Economy*.

As early as the 1940s, though, conservationist and outdoorsman Aldo Leopold already had moved toward complicating this discussion. Leopold called for conservation policies that not only protected wild places, but also promoted an "ecological conscience" reflecting "a conviction of individual responsibility for the health of the land." See Aldo Leopold, "The Land Ethic," in *A Sand County Almanac, with Essays on Conservation from Round River* (1949; reprint, New York: Ballantine Books, 1970), 237-64, quote on 258. In an unpublished essay from late in his life, Leopold also expressed concerns about the "reckless use of new poisons in agronomy, horticulture, wildlife control, fish management, forestry, and soil fumigation"—the skyrocketing postwar use of synthetic chemical pesticides, herbicide, and fungicides. These "violent treatments," Leopold argued, gave rise to several problems: "They deal

with symptoms; their promoters are innocent of probable repercussions; they involve many irreversible changes; because they are quicker than biotic controls, they are assumed to be superior to them." See Aldo Leopold, "The Land Health Concept and Conservation," in *For the Health of the Land*, ed. J. Baird Callicott and Eric T. Freyfogle (Washington, D.C.: Island Press, 1999), 218-26, quote on 223-24. On Carson's somewhat surprising lack of familiarity with Leopold's work, see Lear, *Witness for Nature*, 521, fn. 6.

12. Lear, *Witness for Nature*, 179. In a letter to a friend that Carson wrote during her time with the Service, she also expressed some ambivalence about the traditional conservation agenda. "[I do] not want my own thinking in regard to 'living natural history' to become set in the molds which hard necessity sometimes imposes upon Government conservationists!" Carson wrote. "I cannot write about these things unless I can be sincere." Quoted in Lear, *Witness for Nature*, 510, fn. 23. Carson had always been involved in her local Washington, D.C., Audubon Society: see, for example, Rachel Carson, "Road of the Hawks," unpublished fragment, Rachel Carson papers, 1945, reprinted in Rachel Carson, *Lost Woods: The Discovered Writing of Rachel Carson*, Linda J. Lear, ed. (Boston: Beacon Press, 1998) 31-32. In 1954, Carson also became very concerned about the proposed dam in Dinosaur Monument, even urging her friend Dorothy Freeman to get her local Garden Club interested in the area's preservation: RC to DF, 21 January 1954, in *Always Rachel*, 16-17. Carson also left a bequest to the Sierra Club. See Lear, *Witness for Nature*, 534, fn. 38. On these issues in Carson's life, see also Brooks, *House of Life*, 95-102, 318-321.
13. Maril Hazlett, "The Story of *Silent Spring* and the Ecological Turn" (Ph.D. diss., University of Kansas, 2003), chs. 2-3.
14. Regarding Carson and her approach to case histories, see Lear, *Witness for Nature*, 357. Also see RC to Dr. Edward M. Joyner III, 11 March 1960; RC to Mr. Rudolph O. Apelt, 23 September 1961; partial copy of correspondence between Dr. Francis Silver and Dr. Francis M. Pottenger, 22 June 1960; William M. Upholt, Ph.D., 9 November 1960; Frederick T. Hill, MD, Thayer Hospital, Waterville, Maine, to RC, 16 October 1961; RC to Biskind, 21 August 1961, RCP/BLYU. In *Silent Spring*, Carson weaves together the evidence from scientists and citizens alike in discussing this damage, especially in ch. 7, "Needless Havoc," 85-100; ch. 8, "And No Birds Sing," 103-27; and ch. 10, "Indiscriminately from the Skies," 154-72. On the death of Carson's friend, see RC to Marjorie Spock, 12 August 1958, RCP/BLYU (quotation marks in original). (Almost certainly, Carson refers to the death of Glen Algire, husband of her friend Dorothy Algire.) On Roger's illness, plus the "malignancy" of Carson's housekeeper Ida Sprow, see RC to Marie Rodell, 10 August 1959, RCP/BLYU.
15. Outline preserved in RCP/BLYU.
16. Carson, *Silent Spring*, 16.
17. *Ibid.*, 297.
18. *Ibid.* For a variety of readings on this aspect of *Silent Spring*, see Lisa Sideris, ed., special issue of *Reflections: Newsletter of the Program for Ethics, Science, and the Environment* 9 (2002).
19. Lear, *Witness for Nature*, 396-483; Graham, *Since Silent Spring*, 3-90.
20. Public debate contained in boxes 61-62, RCP/BLYU. See also Lawrence Buell, "Toxic Discourse," *Critical Inquiry* 24 (1998): 639-66; and Ralph Lutts, "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement," *Environmental Review* 9 (1985): 210-25.
21. M. H. Herrick to Editor, *Richmond (Va.) News-Leader*, 23 January 1963, RCP/BLYU.
22. Thanks to Samuel Hays for pointing out this connection. See also Derrick Jensen, "Carolyn Raffensperger on the Revolutionary Idea of Putting Safety First," *The Sun* (November 2002), 5-13.

23. Margaret L. Champie to Editor, *Portland Sunday Oregonian*, 25 November 1962, RCP/BLYU.
24. Yaakov Garb, "Change and Continuity in Environmental World View: The Politics of Nature in Rachel Carson's *Silent Spring*," in *Minding Nature: The Philosophers of Ecology*, ed. David Macauley (New York: Guilford Press, 1996), 229-56, esp. 241-43.
25. Robert L. Rudd, "The Chemical Countryside," *Pacific Discovery* (Nov.-Dec. 1962): 11. Rudd would go on to write *Pesticides and the Living Landscape* (Madison: University of Wisconsin Press, 1964).
26. Around this same time, biologist Barry Commoner also was making a similar argument regarding nuclear power. For the evolution of critiques of environmental risk, see Ulrich Beck, *Ecological Politics in an Age of Risk*, trans. Amos Weisz (Cambridge, Mass.: Polity Press, 1995); Ulrich Beck, *Risk Society: Toward a New Modernity*, trans. Mark Ritter (London: Sage Publications, 1992); and Sylvia Noble Tesh, *Uncertain Hazards: Environmental Activists and Scientific Proof* (Ithaca: Cornell University Press, 2000).
27. Carson, *Silent Spring*, 297.
28. Keller, *Reflections on Gender and Science*; Hazlett, "The Story of *Silent Spring*," chs. 4, 5, and 6.
29. "Pesticides: The Price for Progress," *Time* 28 September 1962, 45-48, RCP/BLYU.
30. Hazlett, "The Story of *Silent Spring*," ch. 4.
31. As quoted in George Murphy, "Pesticides a Boon to Man," *San Francisco Examiner*, 22 October 1963, RCP/BLYU.
32. Fleischer, "*Silent Spring*"; Hazlett, "Voices from the Spring"; Hynes, *Recurring Silent Spring*; Lear, *Witness For Nature*; Norwood, *Made from this Earth*; Smith, "Silence, Miss Carson!"
33. Unsigned editorial, "Woman vs. Man vs. Bugs," *Chicago News*, 1 October 1962, RCP/BLYU.
34. Lucius Beebe, as quoted in "It's Your Own Funeral," *Louisville (Ky.) Times*, 28 October 1963, RCP/BLYU.
35. Unsigned editorial, "The Wing of a Finch," *Richmond (Va.) News-Leader*, 22 January 1963, RCP/BLYU.
36. Simone de Beauvoir, *The Second Sex*, trans. H. M. Parshley (1952; reprint, Vintage Books, 1989), xxi. See also Carroll Pursell, "The Construction of Masculinity and Technology," *Polhem* 11 (1993): 206-19.
37. "Birds and Bunny Boys" is a quote from Audubon Staff Biologist Roland Clement that appears in Lear, *Witness for Nature*, 437.
38. James Gavagan, editorial, "Silent Spring," *The Conservationist* 17 (1962): n.p. See also Donald Fleming, "Roots of the New Conservation Movement," *Perspectives in American History* 6 (1972): 7-91.
39. For similar arguments, see Douglas Sackman, "Putting Gender on the Table: Food and the Family Life of Nature," in *Seeing Nature*, ed. Scharff, 169-93; and Amy Green, "'She Touched Fifty Million Lives': Gene Stratton-Porter and Nature Conservation," in *Seeing Nature*, ed. Scharff, 221-41.
40. Carson as quoted in Lear, *Witness for Nature*, 332. Second quote: Carson, *Silent Spring*, 86.
41. These letters all came from men, even though in other instances sporting publications did show participation from women. Fred Mendell, "*Silent Spring*? No, But There Was This Dead River," *Hutchinson (Kan.) News*, 12 April 1964; Buddy Marceau, "Outdoor Sportsman's Guide," *Springfield (Mass.) Union*, 6 February 1963; Bob Angler, "Fins, Furs, and Feathers," *Burlington Free (Vt.) Press*, 11 October 1962; Nelson Benedict, "Hunting and Fishing," *Newark (N.J.) Star-Ledger*, 2 October 1962. Bud Leavitt,

- "Outdoors: Mr. Wall Comments on Death Valley," *Bangor (Maine) Daily News*, 25 July 1963, all in RCP/BLYU.
42. John Anderson, "Outdoors Column," *Sandusky (Ohio) Register*, 29 September 1962, RCP/BLYU.
 43. More samples of outdoor columnists in local papers: H. F. Drew, "Wide World of Outdoors," *Leominster (Mass.) Enterprise*, 1962 (rest of date illegible); Stan Berchulski, *Springfield (Mass.) News*, 27 February 1963; Joe Laffy, "Insects Menace to Both Man and Wildlife," (in column titled "Rodney Reel Says ...") *Lynn (Mass.) Daily Evening Item*, 13 February 1963. Charles Elliot, "Insecticides ... Big Poison is Destroying Our Wildlife," in "All Outdoors" column, *Atlanta Journal and Constitution*, 22 November 1962, all in RCP/BLYU.
 44. For a broad discussion of masculinity, see Michael Kimmel, *Manhood in America: A Cultural History* (New York: The Free Press, 1996); Barbara Ehrenreich, *The Hearts of Men: American Dreams and the Flight from Commitment* (New York: Anchor Books, 1984).
 45. Attaway, "An Unpleasant Thought." For a related narrative of protective masculinity in the built urban environment, see Mark Tebeau, "Scaling New Heights: Heroic Firemen, Gender, and the Urban Environment, 1875-1900," in *Seeing Nature*, ed. Scharff, 63-79.
 46. Attaway, "An Unpleasant Thought."
 47. Hazlett, "Voices from the Spring," 114-15. See also Bryant Simon, "'New Men in Body and Soul': The Civilian Conservation Corps and the Transformation of Male Bodies and the Body Politic," in *Seeing Nature*, ed. Scharff, 80-102.
 48. Lear, *Witness for Nature*, 567, fn. 42.
 49. Quote from Raymond K. Long, Jr., to Editor, *Audubon Magazine* 64 (Nov.-Dec. 1962): 299. On Audubon's general support for the fight against pesticides, see Gottlieb, *Forcing the Spring*, 151; Frank Graham, Jr., with Carl W. Buchheister, *Audubon Ark: A History of the National Audubon Society* (New York: Knopf, 1990), 224-28. In December 1963, Audubon presented Carson the Audubon Medal. After her death, they set up a memorial fund for research in her name, and helped to establish the Rachel Carson Council; "The Editorial Trail," *Audubon Magazine* 64 (Nov.-Dec. 1962): 306; Roland C. Clement, "Review: *Silent Spring*"; *ibid.*, 356; J. V., "Rachel Carson Receives Audubon Medal," *Audubon Magazine*, 66 (March-April 1964): 98; Buchheister, "The President Reports..." *Audubon Magazine* 66 (July-Aug. 1964): 208.
 50. Alfred G. Etter, "When a State Spray Kills the State Bird," *Audubon Magazine* 65 (March-April 1963): 134; George W. Wallace and Richard F. Bernard, "Tests Show 40 Species of Birds Poisoned by DDT," *Audubon Magazine* 65 (July-Aug. 1963): 198. Mrs. Ernest H. Baker to Editor, and Mrs. Anne Stukalo *Audubon Magazine* 64 (July-Aug. 1962): 184-85; Mrs. Harold B. Arris to Editor, *Audubon Magazine* 65 (Nov.-Dec. 1963): 331-32; Allan Shields to Editor, *Audubon Magazine* 66 (Jan.-Feb. 1964): 3-4; and Lorenzo W. Barton to Editor, *Audubon Magazine*, 66 (March-April 1964): 68. *Audubon* editors likewise took an ecological approach to pesticides, investigating the effects of these chemicals on not only birds but human health. The magazine published long excerpts from Rudd's book, *Pesticides and the Living Landscape*, and carried nature writer and conservationist Hal Borland's account of his own battle against chemical sprays in his local community: Robert L. Rudd, "An Introduction to Pesticides," *Audubon Magazine* 66 (July-Aug. 1964): 222-26; Robert L. Rudd, "The Long Range Dangers of Pesticides," *Audubon Magazine* 66 (Nov.-Dec. 1964): 362-66; Hal Borland to Editor, *Audubon Magazine* 66 (Nov.-Dec. 1964): 340-41; see also John C. Devlin, "Hal Borland and the Voice of Nature ... On Pesticides, Wilderness, and Wildlife," *Audubon Magazine* 66 (May-June 1964): 175-77. In addition, *Audubon* reviewed two *Silent Spring*-minded

- books focusing on human health as an ecological issue—Murray Bookchin (pseud. Lewis Herber)'s *Our Synthetic Environment* (New York: Alfred A. Knopf, 1962) and Theron G. Randolph's *Human Ecology and Susceptibility to the Chemical Environment* (Springfield, Ill.: Charles C. Thomas, 1962). See John Vosburgh, "Staff Reviews: *Our Synthetic Environment*," *Audubon Magazine* 64 (Sept.-Oct. 1962): 286; Roland C. Clement, "Review: *Human Ecology and Susceptibility to the Chemical Environment*, by Theron G. Randolph"; Clement, "Review: *Silent Spring*," 360. In comparison, the Sierra Club published only a short snippet on Herber (who, unlike Randolph, also discussed several land use issues, a traditional concern of conservation): See R. D. B., "Book Reviews," *Sierra Club Bulletin* 47 (1962): 16.
51. Norwood, *Made from this Earth*, 154-63; See Lear, *Witness for Nature*, 314-15, 320, 343, 357-58, 483; Hazlett, "Voices from the Spring," 112-14.
 52. Ruth Scott (Mrs. J. Lewis Scott) to Editor, *Pittsburgh Press*, 24 October 1962, RCP/BLYU. Scott was a friend and correspondent of Carson's, and heavily involved in anti-pesticide campaigns: Lear, *Witness for Nature*, 387-89.
 53. See also Mrs. Ann E. Wissler, president, San Bernadino Valley Audubon Society, to Editor, *Corpus Christi (Texas) Caller*, 14 November 1962, RCP/BLYU.
- Shifting configurations of nature and gender contributed to new cultural partnerships as well. During the early 1960s, many citizens resented how the powers of government, the military, and science seemed to control the world. However, throughout the pesticide debate, many female anti-pesticide activists formed alliances with mostly male scientific experts. The postwar world of science was not yet friendly to women, and comparatively few of them had access to scientific research and ideas. See Hazlett, "The Story of *Silent Spring*," ch. 3. Bridging this significant gap, George Wallace, professor of zoology at Michigan State, joined with Audubon members in Michigan to fight against DDT. (Carson also depended on Wallace's research for much of her chapter, "And No Birds Sing.") Wallace worked closely with female Audubon activists in his area, women who called upon his expertise to help stop local spraying campaigns. These early networks probably helped lay the foundation for the Environmental Defense Fund's first victories against DDT in Michigan: Wallace and Bernard, "Tests Show," 198. Wallace also put Michigan anti-pesticide activists—most of them women—in touch with Rachel Carson, who then connected them to other activists across the country. Anne Mayer Boyes, Secretary, Detroit Audubon Society, to RC, 4 December 1959, RCP/BLYU; Brooks, *House of Life*, 252. Information from the Boyes letter appears in Carson's *Silent Spring* on pages 90-91. Dunlap observes that during the 1950s, protests against pesticides "generally began at the local level." See, *DDT*, 81-97. Dunlap also discusses the rise of the Environmental Defense Fund, on pages 129-245.
54. An unofficial Audubon membership survey indicated the high number of female members: "The Editorial Trail," *Audubon Magazine* 65 (March-April 1963): 142. On Audubon and garden clubs, see Norwood, *Made From This Earth*, 154. Clement is quoted in Lear, *Witness for Nature*, 437. For extensive biographical information on Brooks, see Lear, *Witness for Nature*; for information on Clement, see Lear, *Witness for Nature*, 408, 418, 434, 462, 471.
 55. Cronon, "The Trouble with Wilderness," 77-78.
 56. R. G. Lynch and Cliff Ganschow, "Pesticides: Man's Blessing or Curse?" *National Wildlife* 1 (1963): 10-13. For reader response in praise of the NWF review, see Maynard W. Cummings, Pest Control Specialist, University of California Agricultural Extension Service, to Editor, *National Wildlife* 1 (1963): 22. For an example of reprint, see "Pesticides, Man's Blessing or Curse?—They Are Less Deadly Than Aspirin, Have Improved Health, Foods," *Ogdensburg (N.Y.) Advance-News*, 24 March 1963, RCP/BLYU.

In fact, NWF members seem to have displayed puzzling inconsistencies in their reaction to the pesticide issue - the association had earlier been active in fighting the spraying of fire ants in the South, and in 1963 it named Carson "Conservationist of the Year," Lear, *Witness for Nature*, 343, 442. During its early years, the NWF expressed more concerns about hunters' interests, such as gun control, than advocacy for wildlife or even game management. See Stephen Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison: University of Wisconsin Press, 1981), 262; Gottlieb, *Forcing the Spring*, 157-60. In addition, the founding of the NWF was underwritten by companies who supplied ammunition to hunters, such as DuPont, Hercules Powder Co., and Remington Arms. At the time that Carson wrote, DuPont and Hercules also produced pesticides.

57. Hazlett, "The Story of *Silent Spring*," ch. 4.
58. Virginia Kraft, "The Life-Giving Spray," *Sports Illustrated*, 18 November 1963, 22. *SI* also published four letters to the editor in response to the article on *Silent Spring*, two for and two against.
59. Mabry I. Anderson, "The Case FOR Pesticides," *Field and Stream* 69 (September 1964): 12. The approach of *Field and Stream* to the pesticide issue is interesting. As early as 1959, it published an article titled "Pesticides: Doom in Small Doses," *Field and Stream* (June 1959): 52. This piece also listed human health as a major concern in pesticide application. In September 1962 (in a special issue whose planning probably pre-dated the appearance of *Silent Spring* in the *New Yorker*), *Field and Stream* also published an article on the effects of pesticides on the woodcock population. Bruce S. Wright, director, Northeastern Wildlife Station, "The Plight of the Woodcock," (September 1962): 34-35. In the wake of the *Silent Spring* controversy, however, *Field and Stream* published nothing on pesticide until Anderson's 1964 article. Pesticides and new ecological ideas put many traditional conservationists in an uncomfortable position: These outdoorsmen's beliefs took for granted man's domination of nature, but the pervasiveness of this rationale within industry threatened the wildlife that they loved. One of *Field and Stream's* major competitors, *Outdoor Life*, similarly mentioned nothing in 1962-1963 that this author could find regarding the *Silent Spring* controversy, although they too had published at least one earlier warning about the dangerous effects of pesticides on wildlife and domestic animals: Arthur Grahame, "Reports from the Field: Big Spray Trouble," *Outdoor Life* 123 (March 1959): 24.
60. Some Sierra Club successes were the 1950s fight against the Echo Park Dam on the portion of the Green River running through the Dinosaur National Monument in Utah, and the long legislative battle over the Wilderness Act (1964). Nash, *Wilderness and the American Mind*, 209-22. On the population issue, see Aylmer H. Maude, editor, *Santa Barbara* (Calif.) *Condor-Call*, to Editor, *Sierra Club Bulletin* 46 (1961): 6; Meta Ellis to Editor, *Sierra Club Bulletin* 46 (1961): 11; Alfred H. Frye to Editor, *Sierra Club Bulletin* 46 (1961): 11.
61. Quote from D. B. (David Brower), "Book Reviews: *Silent Spring*," *Sierra Club Bulletin* 47 (1962): 16.
62. Clarence Cottam, "A Noisy Reaction to *Silent Spring*," *Sierra Club Bulletin* 48 (1963): 4; see also "Lucius Beebe on *Silent Spring*," *Sierra Club Bulletin* 48 (1963): 16. Quote from Charles H. Tieman to Editor, *Sierra Club Bulletin* 48 (1963): 18.
63. Adrian L. Hale to Editor, *Sierra Club Bulletin* 48 (1963): 14.
64. Thomas H. Jukes to Paul Brooks, 6 March 1963; see also Thomas H. Jukes to Dr. and Mrs. Edgar Wagburn, cc: Paul Brooks, 16 March 1963, (RCP/BLYU). On Juke's history, see Lear, *Witness for Nature*, 433-34.
65. Gottlieb notes that as late as the 1950s, Sierra Club membership was composed mainly of professionals and businessmen, while the leadership included conservative Republicans. See Gottlieb, *Forcing the Spring*, 41.

66. "Pesticides—In Washington and Yosemite," and "Spraying Tuolumne Meadows," in *Sierra Club Bulletin* 48 (1963): 10-11; letters to Editor, *Sierra Club Bulletin*, regarding Tuolumne spraying debate, 48 (1963): 12-13. For lack of attention paid to Ribicoff hearings, for example, see William Zimmerman, Jr., "Your Washington Office Report," *Sierra Club Bulletin* 48 (1963): 20; William Zimmerman, Jr., "Your Washington Office Report," *Sierra Club Bulletin* 48 (1963): 13-14. On the Sierra Club's sometimes reluctant transition to environmentalism, see Gottlieb, *Forcing the Spring*, 107.
67. Gottlieb, *Forcing the Spring*; Robert Gottlieb, *Environmentalism Unbound: Exploring New Pathways for Change* (Cambridge: MIT Press, 2001). Paul Sutter also noted in his study of interwar ideas of wilderness that he did not find the trend that he expected of ecological experts changing wilderness ideas: *Driven Wild: How the Fight Against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2002), 9-11.
68. Donald Worster, "The Wilderness of History," *Wild Earth* (Fall 1997): 9-13.
69. Stewart L. Udall, *The Quiet Crisis* (New York: Holt, Rinehart, and Winston, 1963), 184.
70. A. W. S., editorial, "The Parks as Prologue," *National Parks Magazine* 38 (July 1964): n.p.
71. "Very few people....," Mrs. W. Clay Babcock to Dr. W.C. Hueper, date not preserved (Hueper evidently forwarded the letter to Carson), RCP/BLYU; "[The] truth is that," Mrs. Leona Rienow to RC, 4 January 1963, RCP/BLYU; "I don't think," Sally Reahard to RC, 9 July (year not preserved), RCP/BLYU.
72. As Roderick Nash has observed, wilderness and ecology were not necessarily incompatible. See *Wilderness and the American Mind*, 254-57.
73. The participants present at the last set of Wilderness Bill hearings from January and May 1964 showed an especially broad coalition of wilderness interests. Many national conservation groups, as well as representatives from local chapters, showed up to debate the timber, mining, petroleum, and other industrial interests that opposed the bill: Audubon Society, Defenders of Wildlife, Izaak Walton League, National Parks Association, National Wildlife Federation, Nature Conservancy, and the Sierra Club. In addition, other citizens' groups at the hearings included federations of garden and women's clubs, hiking and mountain clubs, local wilderness groups, and various hunting associations. House Sub-committee on Public Lands, Committee on Interior and Insular Affairs, *Wilderness Preservation System, Parts I-IV*, 88th Cong, 2nd sess., 1964 (the Wilderness Bill hearings). Many of these groups—Audubon and the National Wildlife Federation, for example—stood on radically different sides of the pesticide question. During the twenty-five days of the Ribicoff hearings, which spread over a thirteen-month period, no conservation group sent representatives to testify, although a few contributed materials. Dr. Roger Tory Peterson, naturalist and Audubon member, did appear at the hearings convened after the Mississippi fish kill, but evidently not as a representative of Audubon. Dr. Roger Tory Peterson, testimony before the Senate Subcommittee on Reorganization and International Organizations of the Committee on Government Operations, *Interagency Coordination in Environmental Hazards*, 88th Cong., 2nd sess., (Ribicoff hearings), 2177.
74. On legislative changes resulting from the Ribicoff hearings, see Christopher J. Bosso, *Pesticides and Politics: The Life Cycle of a Public Issue* (Pittsburgh: University of Pittsburgh Press, 1987). On the history of pesticides in the twentieth century, see Joshua Blu Bluh, "Dead Cows on a Georgia Field: Mapping the Cultural Landscape of the Post-World War II American Pesticide Controversies," *Environmental History* 7 (January 2002): 99-121; Dunlap, *DDT*; John H. Perkins, *Insects, Experts, and the Insecticide Crisis: The Quest for New Pest Management Strategies* (New York: Plenum Press, 1982); Edmund Russell, *War and Nature: Fighting Humans and Insects with*

Chemicals from World War I to Silent Spring (Cambridge: Cambridge University Press, 2001); Sandra Steingraber, *Living Downstream: An Ecologist Looks at Cancer and the Environment* (Reading, Mass.: Perseus Books, 1997); and John Wargo, *Our Children's Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides*, 2nd ed. (New Haven: Yale University Press, 1998).

75. Carson, *Silent Spring*, 12-13.